

TAHOE REGIONAL PLANNING AGENCY
Research and Analysis Department
REQUEST FOR PROPOSALS (RFP)
Tahoe Travel Demand Model Updates
RFP #240007

Announcement: October 5, 2023

Project Description: The Tahoe Regional Planning Agency (TRPA) is requesting proposals for the services of a qualified vendor to provide travel demand modeling expertise in accordance with the scope of services provided within this RFP. Services are requested to update and validate the TRPA's activity-based Tahoe Travel Demand Model.

Evaluation: Proposals will be evaluated according to the criteria in section 4 of this document.

Deadline: October 13, 2023, 5pm PST – Bidding Firms' Questions Due
November 1, 2023, 5pm PST – Deadline for Proposal Submissions

Questions: All questions should be submitted in writing to the RFP Coordinator:

Josh Schmid
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Tahoe Regional Planning Agency
PO Box 5310
128 Market Street
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1. Introduction and Agency Background

Introduction:

The objective of this project is to update and validate the Tahoe Travel Demand Model. The deliverables include updated sub-model components and a validated model with documentation of each deliverable.

The Tahoe Regional Planning Agency (TRPA) is a bistate regional planning agency and metropolitan planning organization (MPO) located on the border of California and Nevada. Created through a Bi-State Compact between California and Nevada, TRPA leads the cooperative effort to preserve, restore, and enhance the Lake Tahoe Region, while improving local communities and visitors' interactions with its irreplaceable environment. As the Lake Tahoe Region's federally designated metropolitan planning organization, TRPA plays a leading role in identifying and planning solutions for its transportation challenges.

The current [Lake Tahoe Resident and Visitor Model](#) consists of an activity-based resident model and an activity-based visitor model that are customized on top of the TransCAD 4.8 platform. The current model is used to assist TRPA in analyzing a variety of planning policies and to estimate and forecast VMT in the region. The last major model run occurred for the [2020 Regional Transportation Plan](#).

TRPA Background Information:

Established in 1969, by a Federally sponsored, interstate compact between California and Nevada, TRPA is authorized under California law (California Government Code sections 66800 through 66801), Nevada law (NRS 277.190 through 277.200), and Federal law (PL 96-551).

The mission of TRPA is to “lead the cooperative effort to preserve, restore, and enhance the unique natural and human environment of the Lake Tahoe Region, while improving local communities, and people’s interactions with our irreplaceable environment.” TRPA is the leading partner for plans and actions to preserve the environment of the Tahoe region. TRPA establishes transportation and land use policy as the region’s Metropolitan Planning Organization and works with local, regional, state, and Federal organizations and governments to facilitate a cooperative approach in implementing these plans and programs. The TRPA Regional Plan is designed to maintain a healthy natural environment, meet adopted environmental thresholds, maintain social and economic health, and allow orderly growth in the Region.

TRPA is governed by a 15-member Board. California and Nevada each have seven members comprised of elected officials and governmental appointees. In addition, a non-voting member is appointed by the President of the United States. Further information can be obtained at TRPA’s website at www.trpa.gov.

2. Project Description

Scope of Work

The scope of the project is to make specified changes to the Tahoe Travel Demand Model and to recalibrate and validate the model after updates have been implemented. All model updates shall be compliant with current federal, California, and Nevada guidelines for travel demand modeling ¹.

Task 1: Model Updates – Implement specified updates to the Tahoe Travel Demand Model.

- **Major Milestones:** Prior to producing the task deliverables, the contractor shall work with TRPA staff to understand and clarify Task 1 milestones.
- **Deliverable 1:** *Migrate Tahoe Travel Demand Model from TransCAD 4.8 to TransCAD 9.0*
 - The Tahoe Travel Demand Model is currently hosted on TransCAD 4.8, which the model was built in during the Pathways 2007 project. While functional, the underlying software is due for an upgrade to better serve the needs of TRPA. The latest version of TransCAD, TransCAD 9.0, has been installed on a new machine, but the model has not yet been migrated to the new machine. The contractor shall migrate the Tahoe Travel Demand Model from its current platform in TransCAD 4.8 to TransCAD 9.0.

Task 2: Model Validation – Validate the Tahoe travel demand model.

- **Major Milestones:** Prior to producing the task deliverables, the contractor shall work with TRPA staff to understand and clarify Task 2 milestones.
- **Deliverable 2:** *Static Model Validation*
 - Perform static validation to analyze modeled values compared against observed conditions, which should include but is not limited to comparing the assigned volumes and congested speeds against

¹ California Transportation Commission, 2017 Regional Transportation Plan Guidelines for Regional Transportation Planning Agencies, <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009312-2017rtpguidelinesformpos-a11y.pdf>

California Transportation Commission, Draft 2023 Regional Transportation Plan Guidelines for Metropolitan Planning Organizations, <https://catc.ca.gov/-/media/ctc-media/documents/programs/transportation-planning/first-draft-2023-regional-transportation-plan-guidelines.pdf>

Nevada Department of Transportation, August 2012 Traffic Forecasting Guidelines, <https://www.dot.nv.gov/home/showpublisheddocument/4506/636190450653700000>

observed counts and speed data for the modeled day across facility type, screenlines, volume group, etc. To start, the contractor shall create a static validation plan and work with TRPA staff to gather validation data. Once the contractor has conducted the validation, they shall provide detailed documentation of the validation results. Validation methodology should satisfy all state and federal guidelines².

- **Deliverable 3: Dynamic Model Validation**
 - Put the Tahoe Travel Demand Model through a series of tests to identify the degree of model sensitivity/insensitivity and to determine whether the model is appropriate for both regional and project-level analysis. To start, the contractor shall work with TRPA staff to create a dynamic validation plan by identifying a range of potential sensitivity tests. Next the contractor shall carry out dynamic validation tests and lastly create detailed documentation of the validation results. Validation methodology should satisfy state and federal guidelines².

Task 3: Additional Model Improvements (optional) – The deliverables listed above are essential to the upcoming 2025 Regional Transportation Plan. Depending on project budget and need, there may be an opportunity to update additional elements of the model using guidance from the 2019 model stakeholder working group. If additional work is requested, TRPA staff shall work with the contractor to establish the detailed scope and work orders for these deliverables. Prospective bidders should provide general cost estimates for time and materials, and/or specific proposals, where applicable, for these optional deliverables.

- **Optional Deliverable 4: Construct Bicycle/ Pedestrian Networks and Revise Mode Split to Include Bicycle and Pedestrian Trips**
 - Many of TRPA’s planning initiatives center around improving access to and promoting utilization of active transportation facilities. Currently, the impact of new bicycle and pedestrian facilities is primarily analyzed off-model, with trip reductions applied based on multiplication factors. While nonmotorized trips are modeled in the model, they are a single

² Federal Highway Administration (FHWA), Transportation Model Improvement Program (TMIP), https://www.fhwa.dot.gov/planning/tmip/publications/other_reports/validation_and_reasonableness_2010/fhwa_hep10042.pdf

California Transportation Commission, 2017 Regional Transportation Plan Guidelines for Regional Transportation Planning Agencies, <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009312-2017rtpguidelinesformpos-a11y.pdf>

California Transportation Commission, Draft 2023 Regional Transportation Plan Guidelines for Metropolitan Planning Organizations, <https://catc.ca.gov/-/media/ctc-media/documents/programs/transportation-planning/first-draft-2023-regional-transportation-plan-guidelines.pdf>

Nevada Department of Transportation, August 2012 Traffic Forecasting Guidelines, <https://www.dot.nv.gov/home/showpublisheddocument/4506/636190450653700000>

“nonmotorized” category that considers only the street network and walk speed. Incorporating better representation of the bicycle and pedestrian network will greatly increase the accuracy of active transportation modeling in the region. The contractor shall propose a way to both incorporate bicycle and pedestrian networks into the Tahoe model and revise the mode split procedure to properly account for bicycle and pedestrian trips. Ideally, these bicycle and pedestrian networks would make use of TRPA’s ongoing level of stress analysis to give preference to active transportation routes that are less stressful for pedestrians and bicyclists.

- **Optional Deliverable 5: *Use Big Data to Parameterize Model***
 - Public opinion in recent years is that visitation in Tahoe has been shifting to different locations, which may not be accounted for in the Tahoe model. Recent advances in big data have made it possible to obtain a much greater understanding of travel patterns without the use of formal travel surveys. The contractor shall propose ways in which data from big data sources, such as Replica, Streetlight, etc., could be used to improve or parameterize the distinct Resident and Visitor Models within the Tahoe model. Such improvements could include, but are not limited to, recalibrating external trips, recalibrating origin-destination trip matrices, recalibrating visitor and commuter demographics, or recalibrating mode share, and will be mutually agreed upon by the contractor and TRPA. The contractor will work with TRPA to identify a suitable data source that can be used to enhance the Tahoe model.

- **Optional Deliverable 6: *Construct Commercial Vehicle Sub-Model***
 - Historically, the Tahoe model has not modeled commercial vehicle trips, as freight was a very small percentage of regional trips. However, with the rapid increase in online shopping, the number of commercial vehicle trips in the region is rising quickly, as is the associated VMT and impact on the regional transportation network, creating an incentive to model freight trips. The contractor shall work with TRPA to determine a data source for commercial vehicle trips. Once a data source is identified, the contractor shall determine how to incorporate freight trips into the Tahoe model.

- **Optional Deliverable 7: *Addition of Ferries to Model***
 - The contractor shall propose a way to integrate ferry and water taxi routes into the Tahoe model. In the Lake Tahoe region, ferries were historically used to transport people across the lake to different parts of the shoreline. Long-range plans include restoration of ferry services to transport people between the North and South Shores, and the future

ferry network will need to be modeled. Currently, vehicle trip reduction associated with ferries is assessed off-model, but it would be preferable to include this in the main Tahoe model. The contractor will work with TRPA staff to determine the specifics of the fixed-route ferries to be added to the model.

- **Optional Deliverable 8: *Incorporate VMT Estimation Into Model***
 - SB 743 requires transportation agencies operating in the State of California to evaluate projects based on their estimated VMT generation, a major change from past practices. While it is currently possible to estimate VMT using outputs from the Tahoe model, the process is cumbersome relative to the importance of VMT estimates in the region. The contractor shall propose a method by which to convert TransCAD outputs to estimated VMT at the TAZ level within the model, which could then be scaled up to a jurisdiction or regional level.

- **Optional Deliverable 9: *Collect New External Worker Data & Re-Calibrate External Worker Model:***
 - The contractor shall update the external worker sub-model by proposing updated data sources, collecting new data, and re-calibrating the model. This update will provide revised estimates for the number of external workers coming into the region as well as which entry point they are using. Potential data sources include Replica, LODS, StreetLight, and AirSage. An updated employer-based survey may also be appropriate to understand the local jobs that are filled by external workers (to validate Big Data based assumptions) and the seasonal nature of those jobs. Once this data is incorporated, the reverse destination choice model shall be recalibrated. The contractor shall propose external worker data source(s), work with TRPA to collect the data, re-calibrate the sub-model, provide detailed documentation of the calibration process, and provide any collected data in csv or excel file format.

- **Optional Deliverable 10: *Update and Recalibrate Visitor and Resident Destination Choice Models***
 - Update the visitor and resident sub-models to incorporate parking restrictions/constraints, parking cost, and/or tolls. In recent years, there has been increased attention surrounding parking management and road pricing in the Tahoe basin. Currently, these items are analyzed off-model to determine the amount of trip reduction each can provide. Currently there is an off-model approach where the model user assigns an attractiveness score to each TAZ. The contractor should propose a

new methodology for representing the relative amount of visitor and resident activity at recreation locations throughout the region. This will include updating the destination choice models using new data sources and incorporating capacity constraints such as parking or cost. The contractor shall provide detailed documentation of the proposed methodology including data sources and any code developed to analyze model data.

Term of Engagement

It is the intent of the Agency to contract for services presented herein for a two-year and seven-month term effective December 1, 2023, and expiring on June 30, 2026, or upon completion, whichever is soonest.

The Agency reserves the right to extend the contract. Contract renewal is subject to the annual review of the Agency, the satisfactory negotiation of terms (including a contingency rate acceptable to both the Agency and the selected firm), and the annual availability of an appropriation.

TRPA Budget

As a public agency, TRPA's annual operating budget is constrained. Please take this into account when responding to this call for proposals. Funding for these services will come from monies collected.

3. RFP Schedule & Submission Process

Public Records:

The documents submitted in response to this RFP should be considered public information and subject to disclosure. Restrictions on any information submitted will render a bid non-responsive.

TRPA assumes no contractual obligation to enforce any exemption on behalf of a respondent to the RFP.

RFP Coordinator:

Upon release of this RFP, all communications concerning this proposal request should be directed to the RFP Coordinator listed below. All written questions and requests for clarification must be received by the deadline on the RFP schedule listed below. Email shall have the subject stating: "**RFP INQUIRY – RFP #240007 Tahoe Travel Demand Model Updates.**" Responses will be posted to the website trpa.gov/contact/request-for-proposals/ in accordance with the RFP schedule listed below. The respondent should rely only on written statements issued by the RFP Coordinator.

Joshua Schmid
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PO Box 5310
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Jschmid@trpa.gov

Request for Proposal Schedule:

TRPA anticipates the following schedule, which is subject to change:

Date of Announcement:	October 5, 2023
Bidding Firms' Questions Due:	October 13, 2023, 5pm PST
Questions and Answers posted to www.trpa.gov	October 18, 2023
Deadline for Proposal Submissions:	November 1, 2023, 5pm PST
Sealed Proposals Opened:	November 2, 2023
Selection of Consultants for Interviews (if necessary):	November 3, 2023
Consultant Interviews (if necessary):	November 8, 2023
Anticipated Award of Contract:	November 9, 2023
Commencement of Work:	December 1, 2023

Late proposal submissions will not be considered and will be returned unopened to the sender.

Consultant Requirements:

Proficiency with TransCAD and programming languages such as Java, Python, & R
Demonstrated ability to work with government clients
Knowledge of Federal and State transportation modeling guidelines
Experience with travel demand models that incorporate visitor and commuter travel patterns
Experience with activity-based travel demand models
Experience with static and dynamic model validation
Experience with 'big data' sources, collection, and analysis, such as Replica, Streetlight, or
Airsage
Desirable: Knowledge of California and Nevada transportation modeling guidelines, including
California SB 743 legislation

Proposal Submission:

Electronic submission of proposals via email, file transfer, or other method is preferred. RFP and cost proposals are submitted separately, and cost proposal is only opened for proposals that meet format requirements. Send electronic submittals to bids@trpa.gov with the subject line "**DO NOT OPEN – RFP #240007 Tahoe Travel Demand Model Updates RFP Response [lead firm name]**" and "**DO NOT OPEN – RFP #240007 Tahoe Travel Demand Model Updates RFP Cost Proposal [lead firm name]**".

All opened proposals and accompanying documentation become the property of TRPA and will not be returned. Any late proposals will be returned unopened.

Terms and Conditions:

- TRPA reserves the right to amend the RFP schedule or issue amendments to the RFP at any time. TRPA also reserves the right to cancel or reissue the RFP, to reject any or all proposals, to waive any irregularities or informalities in the selection process, and to accept or reject any item or combination of items. TRPA reserves the right to request clarification of information from any bidder or to request supplemental material deemed necessary to assist in the evaluation of the proposal. TRPA reserves the right to accept any agreement deemed by the agency to be in its best interest. This RFP does not obligate the TRPA to accept or contract for any expressed or implied services.
- In the event that the bidder to whom any services are awarded does not execute a contract within thirty (30) calendar days after TRPA approval, TRPA may give notice to such bidder of intent to award the contract to the next most qualified bidder or to call for new proposals and may proceed to act accordingly.
- TRPA will not reimburse any bidder for any of the costs involved in the preparation and submission of responses to this RFP or in the preparation for and attendance at subsequent interviews.
- Selected consultant(s) will be expected to sign the TRPA Consultant Services Agreement listed on trpa.gov/contact/request-for-proposals/. Any desired edits to this agreement should be included in the Contractor's proposal. Desired edits may not be accepted by TRPA.
- The Consultant or its employees may be subject to the provisions of Article III (a)(5) of the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal. Gov't Code Section 66801, N.R.S. 277.200), which requires disclosure of any defined economic interest and prohibits such persons from attempting to influence Agency decisions affecting certain economic interests.
- Bidder shall thoroughly examine and be familiar with these terms and conditions of the TRPA Consultant Services Agreement. The failure or omission of any bidder to receive or examine this document shall in no way relieve any bidder of obligations with respect to this proposal or the subsequent contract.
- Bidder must certify to the best of its knowledge and belief that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency. TRPA will verify bidders' status by checking the SAM system.
- All subcontractors, if any, used by the selected consultant will require prior written consent of TRPA and will be subject to all provisions stipulated in the TRPA Consultant Services Agreement.
- This contract will be funded by federal and state grant awards and is subject to federal and state grant award requirements including, but not limited to, cost principles and administrative regulations including but not limited to travel and per diem rates, mileage rates, and allowable cost requirements.

4. Minimum Required Proposal Contents

Minimum Required Proposal Contents:

All proposal responses should address the following matters:

1. **Definition of the Project:** Indicate your understanding of the Project objectives and TRPA travel demand model. Max page limit: 1 page
2. **Project approach:** Describe how the Project will be managed, implemented, and evaluated to accomplish the objectives and requirements outlined in this request. Max page limit: 2 pages
3. **Team Organization:** Describe how the project team will be organized to facilitate effective management, implementation, and evaluation. Max page limit: 1 page
4. **Qualifications and Experience:** Provide a summary of company and project team qualifications related to travel demand modeling. Max page limit: 2 pages
5. **Schedule and Cost:** Provide a timeline and itemized cost estimate based on the Tasks described in Scope of Work section. Cost estimates should be based on hourly rates and/or milestones and deliverables or as a contingency. Please provide a “Not to Exceed” cap and a bid guarantee through December 31, 2025. Max page limit: 1 page
6. **References:** Provide a minimum of three (3) client references of similar sized and/or governmental accounts which the bidder has served in a similar capacity over the past two years and/or is currently serving. Provide a contact person, telephone number, and email address for each reference customer. References should be submitted as an attachment to this response. Max page limit: 3 pages

W-9 and Proof of Insurance

Submit a completed IRS form W-9. Proof of Insurance will be required if selected under this RFP for a contract award. TRPA contract insurance requirements are outlined in the TRPA Standard Two-Party Contract, available here <https://www.trpa.gov/wp-content/uploads/documents/archive/TRPA-Standard-Two-Party-Contract.pdf>.

5. Notification and Selection Process

Review of Proposals

After the deadline date the Agency shall review and evaluate all proposals for responsiveness to the RFP in order to determine whether the bidder possesses the professional qualifications necessary for the satisfactory performance of the services required. The Agency shall also investigate qualifications of all bidders to whom the award is contemplated, and the Agency may request clarifications of proposals directly from one or more bidders. In reviewing the proposals, the Agency may consider the following:

1. The experience and past performance of the bidder and its agents, employees, and sub-consultants in completing projects of a similar type, size, and complexity.
2. The Agency may consider Bidder's timely and accurate completion of similar projects within budget.
3. The specific recent experience of the bidder and its agents, employees, and sub-consultants in auditing governmental entities and especially transportation entities.
4. The feasibility of the proposal based upon the performance and cost schedules, and the methodology to be used by the bidder.
5. Bidder's understanding of the work to be completed based upon the clarity of the proposal and responsiveness to this RFP.
6. Bidder's proposed language for the Professional Services Agreement.
7. TRPA agrees to make a good faith effort to contract with small, minority, disabled, and women owned business enterprises. Accordingly, the TRPA strongly encourages small, minority, disabled, and women owned businesses to reply to this RFP and submit Small Business Enterprise (SBE), Disadvantaged Business Enterprise (DBE), Women Business Enterprise (WBE), Disabled Veteran Business Enterprise (DVBE), or similar certifications as an attachment to this RFP.

Award of Agreement

Upon completion of the review period, the Agency shall notify those bidders whose proposals will be considered for further evaluation and negotiation. All notified bidders may be required to make presentations and negotiate in good faith in accordance with direction from the Agency. Any delay caused by bidder's failure to respond to direction from the Agency may lead to a rejection of the proposal.

If the Agency determines, after further evaluation and negotiation, to award the Agreement, the TRPA Two-Party Contract Agreement shall be sent to the successful bidder for the bidder's signature. No proposal shall be binding upon the Agency until after the Agreement is signed by duly authorized representatives of both the bidder and the Agency.

Should the selected bidder and TRPA be unable to agree to the terms of a contract within thirty (30) calendar days after TRPA approval, TRPA will reserve the right to disqualify the consultant and select another qualified bidder. Should this process not result in the hiring of a consultant, the RFP may be reissued.

The Agency reserves the right to reject any or all proposals, and to waive any irregularity. The award of the Agreement, if made by the Agency, will be based upon a total review and analysis of each proposal and projected costs.

TRPA will contract with the bidder that will best accomplish the project objectives for the best value and in the best interests of the Agency.